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MEDICAL UNIVERSITY  
OF  
SOUTH CAROLINA

*Annual Report*  
*1976-1977*

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MEDICAL UNIVERSITY  
OF  
SOUTH CAROLINA

*Annual Report*  
*1976-1977*

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Office of the President  
(803) 792-3211



## Medical University of South Carolina

80 BARRE STREET / CHARLESTON, SOUTH CAROLINA 29401

Gentlemen:

Among the significant changes and advances of the past year, we feel a broader application of our resources to our state's needs has been one of the most important. The spirit of interinstitutional cooperation has never been higher. It was our pleasure this year to join in the incorporation of The Charleston Higher Education Consortium, a significant move to increase educational opportunities through coordinated use of faculty and facilities of six institutions. The other co-participants are the College of Charleston, The Citadel, Baptist College, Trident Technical College and the Marine Resources Division.

This consortium, I would like to point out, is but one manifestation of the Medical University's desire to place its resources and expertise in the full service of South Carolinians. At the departmental level we cooperate in a bioengineering program with Clemson University and in an exchange program with the University of South Carolina School of Law. We have a joint baccalaureate program in nursing with Francis Marion College and are planning a baccalaureate degree program with Winthrop College for practicing registered nurses. The largest of the cooperative arrangements is embodied in the Area Health Education Center Program which this year through additional agreements will in time provide health education opportunities in every portion of the state through a system of 53 hospitals. We are forging a true partnership in health.

Honorary degrees of Doctor of Humane Letters were conferred upon Dr. Richard E. Palmer, President of the American Medical Association; Dr. Harry W. Bruce, Jr., Executive Director of the American Association of Dental Schools; Dr. Vince Moseley, Assistant Academic Vice President for Extramural Affairs of the Medical University, and Dr. William H. Muller, Jr., distinguished surgeon and Vice President for Health Affairs of the University of Virginia.

It is my sad duty to report the deaths of Dr. Francis Gendron Cain, Professor Emeritus of Gynecology; Dr. William Henry Lee, Jr., Professor and Chairman, Division of Thoracic Surgery; Stephen P. Dittmann, Jr., Director, Division of Audiovisual Resources; Joseph Mangiaracina, Director, Office of Education; and Dr. Paul W. Sanders, Jr., Clinical Professor Emeritus of Urology.

Respectfully submitted,

  
William H. Knisely, Ph.D.  
President



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*To Serve Until 1980*

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## COLLEGE OF MEDICINE

The policy options which can be used to guide this medical school to academic excellence and a position of eminence in medical care are numerous; the process used in investigating these options may well be as important to the future of the College of Medicine as the actual outcomes. The importance of process is recognized because the College of Medicine is still accommodating to a flush of relatively new faculty and economic reversals of the recent past.

Pursuant to process and the notion that the school's well-being is dependent upon clinical excellence, the Dean's Office has been developing a new working relationship with the Hospital which should produce greater responsiveness to the perceived needs of the clinical facilities. Active concern has focused upon: (1) the adequacy of clinical facilities, (2) the spectrum of appropriate health services, (3) the responsibility for care of the medically indigent, and (4) the commitment of faculty to exemplary medical care.

It is notable that the conduct of the quarterly Departmental Chairmen's meeting is dedicated to a pluralistic approach to the formulation of new policy. Critical areas are being addressed, and the threat of change is painful in some quarters, but such change should assure continuing progress within a highly dynamic supersystem. Further, heretofore, committee structure and functions have received little attention. However, such structure now receives considerable attention with working committees providing active opportunity for faculty expression. Productivity includes two heroic studies of faculty and student concerns, the development of policies for student promotion and grievance procedures, and a variety of other studies all aimed at moving the College of Medicine forward against what appears to be a plateauing of financial support.

As previously reported, FY 1975-76 represented an end to a memorable period of dynamic growth for the College; FY 1976-77 focused upon accommodation to the plateauing of state funds and the various new regulations intended to force reduced spending. Again, the Dean and Departmental Chairmen worked together to equitably allocate available funds in a manner which would provide the various Departments with the greatest possible freedom. The increase in state monies for FY 1977 over FY 1976 was approximately \$400,000.

The College of Medicine faculty continued its replacement and growth process with a total net gain of 15 full-time faculty; part-time faculty experienced a net increase of 98. Faculty appointments have varied in number as the various Departments have succeeded in filling vacancies according to their ordered plans. The basic sciences (with the exception of Pathology) have remained fairly stable, but the clinical



sciences have experienced a marked shift from full-time to part-time status. This is especially evident in Medicine and Family Practice.

The College of Medicine has admitted 165 students each year since 1971. During the initial portion of this period the applicant pool nearly doubled in size, but since then has leveled out. There were 708 applicants in 1971 and 1,165 in 1977. The number of female applicants from South Carolina increased from 23 to 76 over the period 1972-77 and the number of females accepted rose from 13 to 31. There were four black admissions in 1972, and eight in 1977. Mean scores in the Medical College Aptitude Test of accepted students are at an all-time high.

In 1977, 142 students completed their course requirements on eight separate occasions. Accelerated programs accounted for the variety of completion dates, but this phenomenon has now run its course.

Altogether, 45 students completed an accelerated course of study during the year. Meanwhile, the curriculum continued to be revised with the exclusion of an additional number of elective courses and a tightening of the Flexnerian model.

As is the custom, this Annual Report features one component of the College for inclusion in detail. This year it seemed appropriate to feature the Department of Laboratory Animal Medicine inasmuch as it is a Department in transition.

A policy and operational manual for the Department has been developed and accepted by the University. A graduate level course to be taught under the auspices of the Department of Pathology Graduate Program has been developed for submission to the Graduate Curriculum Committee. This course will center around the use of animals in research including genetics, management, species selection, molecular genetics, and effects of subclinical and clinical infections on long and short term studies. Biohazards and their control will also be emphasized, particularly as they relate to federal laws and regulations.

Personnel studies in relation to projected programmatic needs and anticipated new federal requirements and laws have been developed and submitted to the personnel office. They were undertaken in concert with the developing sister facility at the University of South Carolina. This proposal provides a career ladder for all animal health care personnel.

A microbiology laboratory has been established in addition to the clinical chemistry and parasitology laboratory to aid in maintaining appropriate control of animal health. This was accomplished with existing personnel.

The American Association for Laboratory Animal Science level one course was again presented during the winter quarter to personnel from the Department and throughout the University. This course will be taught again next year and the second level given as well.

Departmental facilities were in the process of being upgraded during the year. A new high capacity tunnel cage washer was installed for improved cage sanitation and all enclosed areas on the roof of Building E were reconditioned.

The Ladson facility was closed and the property will soon be up for disposal.

## COLLEGE OF MEDICINE BUDGETS

1970 — 1977

Fiscal Period	State Approp.	Federal	Other	Total
1970-1971	\$ 4,741,216	\$2,525,381	\$3,068,359	\$10,334,956
1971-1972	4,955,638	2,538,077	3,949,776	11,443,491
1972-1973	6,913,829	2,888,546	6,221,198	16,023,573
1973-1974	8,206,619	3,586,249	7,622,350	19,415,218
1974-1975	10,226,689	4,186,261	4,133,731	18,546,681*
1975-1976	11,312,840	3,656,409	5,263,845	20,233,094
1976-1977	11,709,334	3,647,646	6,596,055	21,953,035**

\* Apparent drop in total budget is the result of transferring laboratory medicine service functions to the hospital.

\*\* Includes \$400,000 non-recurring budgetary supplement for one-time capital expenditures.

## COLLEGE OF DENTAL MEDICINE

The most significant change during the year was the adoption and implementation of the four-year curriculum. Most of the instruction hours have remained the same but there has been a better sequence of courses as well as additional time to teach prevention of diseases and to participate in extramural activities.

The undergraduate program remained fully approved, and all post-graduate programs were reviewed and fully approved by the American Dental Association's Council on Dental Education. While courses in dental assisting, dental hygiene and dental laboratory technology are actually under the College of Allied Health Sciences, the College of Dental Medicine supports these programs with space, faculty and staff and all of these are properly approved.

More courses are being placed on self-instruction, particularly in the senior year, so that students are not penalized while spending time at Richland County Memorial Hospital in Columbia. Also, more faculty and courses are being assessed by an accepted evaluation method.

Excellent performance on the State Dental Boards was noted this year as well as improvements on Part I of the National Boards. Effective in 1978, any recent graduate who wishes to take the South Carolina Dental Board must have taken and passed all parts of the National Boards.



There were 270 applications for the class beginning June 6, 1977, a number similar to last year's. Of interest was the increase in the number of female students accepted for this class. For the fourth year a college pre-dental advisors seminar was held, the location being Benedict College.

Minor changes were made within the main college building to allow for increased emphasis on preventive dentistry. The two-week rotation for senior students in the Richland County Memorial Hospital will be extended to three weeks next year. Some changes in Charleston County Hospital also helped the surgery program there. A contract has been awarded for a five-chair clinic in the Medical University's Clinical Science building.

Computer resources were utilized to a greater extent to provide data on patient and student progress with dental treatments as well as on collection of clinical fees. More than 23,000 patient encounters were recorded during the year.

A diversity of research is being carried out in such areas as immunology, as related to periodontal disease; types of materials best suited for artificial implants; collagen and connective tissues; genetics; and abrasive wear on anterior restorations.

It was a highly active year for Continuing Education as 28 courses were offered achieving a total attendance of over 700 dentists, dental hygienists and dental assistants. Courses were given in cooperation with Greenville Area Tech, Coastal District Dental Society, South Carolina Heart Association and other organizations, and were presented in Greenville and Columbia as well as Charleston.

The college continued to be hampered by reduction of federal funds and the imposition of additional requirements to obtain them. Diminishing amounts of capitation, loan and scholarship funds were available, and meanwhile, state funds are not being increased sufficiently to continue all of the present postgraduate programs.

Now that the college is seven years old, consideration must be given to replacing clinical equipment. A study of graduate programs to determine the feasibility of placing more emphasis on general dentistry residency programs is also in order.

## COLLEGE OF GRADUATE STUDIES

The increasing interest in the graduate effort at the Medical University is evidenced by the growth in the annual number of applications and acceptances during the past four years.

	1973-74	74-75	75-76	76-77
Applications .....	117	106	167	219
Acceptances .....	38	37	54	46

Accordingly, this year a total enrollment of 121 graduate students was reached, the highest in the history of the college, consisting of 52 students working toward their Master of Science (M.S.) degree and 26 in Ph.D. degree. There were 20 new students enrolled in M.S. and 26 in Ph.D. programs.

From 1949 (when graduate study was first offered on this campus) through the graduation exercises in June, 1977, a total of 168 graduate degrees have been awarded (108 M.S. and 60 Ph.D.). Twenty-three of these Ph.D.'s went to Pharmacology majors, 15 to Biochemistry, 11 to Anatomy, 6 to Pathology and 5 to Physiology. The M.S. degree holders are 22 in Pharmacology, 22 in Microbiology, 22 in Anatomy, 16 in Biochemistry, 6 in Physiology and 4 in Pathology. Biometry, which was not approved for graduate work until 1971, interestingly, has had 16 students receive the master's degree.

Of paramount importance to the progress of graduate studies has been the quality of the faculty, persons who are avid scholars and persistent researchers who are able and willing to attract students. Love of learning, academic dedication and enthusiastic investigation are qualities in teachers which move students to high performance.

Increasing interest is being expressed in expanding the masters degree program to include studies without the traditional stress on pure research. In view of this interest it is recommended that this subject be thoroughly explored.

## COLLEGE OF PHARMACY

The College was paid a site visit by the Council for Pharmaceutical Education and had the distinction of being in the nation's first group of colleges to receive full accreditation for the Doctor of Pharmacy program. Fifteen programs altogether throughout the nation received this initial approval.

First phase renovation plans for expansion of College facilities were completed and work was begun this June. Some 24,000 gross square feet will be added, with the work to be completed in early 1978. Meanwhile, planning is underway for the consolidation of research in space to be acquired when other Medical University units eventually move to the 7th and 8th floors of the Clinical Science Building now under construction. For the first time the College expects to have adequate space specifically designated for the conduct of bench research.

A fund raising campaign has been launched to aid in the furnishing and equipping of renovated areas. In addition to some \$20,000 in gifts from alumni, the college received \$10,000 from the Upjohn Company and \$50,000 from National Data Corporation to be shared with the College of Medicine's Department of Family Practice.



A patient information microfiche was developed for use by pharmacies without computer capability. It is now in the testing stage to determine whether the information provided is in a usable format for the practicing pharmacist. Also, a computer based program for hospitalized patients underwent a trial run and it was determined that storage needs would fall short of those required for institutionalized patients. The program was curtailed until a larger computer could be acquired.

The faculty participated in the presentation of eighty-four seminars throughout the country on all aspects of pharmacy practice and continuing education. Most of the programs were sponsored by major pharmaceutical companies. Twelve papers were accepted and presented at the national professional meetings of the American Chemical Society, American Pharmaceutical Association, and the American Society of Hospital Pharmacists.

A Fulbright-Hays scholarship was awarded to a faculty member to lecture on pharmacokinetics in Caracas, Venezuela, and Quito, Ecuador, and another faculty member lectured for three weeks throughout Australia on the topic of drug interactions.

Eleven faculty members published seventeen articles in scientific and professional journals. In addition, two faculty members wrote chapters in the American Pharmaceutical Association's "Handbook on Non-Prescription Drugs" and one was involved in writing review articles in professional journals.

The College sponsored two continuing education programs, one in the area of over-the-counter preparations and the other relating to childhood diseases and their treatment. In addition, the College actively participated in a number of seminars sponsored by the South Carolina Pharmaceutical Association.

To strengthen alumni ties, a quarterly publication, MUSC Commemator, was instituted. Edited by F. Joseph Hodge, the first issue won warm acceptance.

## COLLEGE OF NURSING

A site visit was paid to the College in October by representatives of the National League for Nursing. Following the Board Review in December, the College was pleased to learn that it had been reaccredited for eight years, the maximum interval allowed by the League.

There was additional good news about student performance. Medical University graduates taking the 1976 State Boards ranked first among the 14 schools of nursing in South Carolina. During the five year period, 1972-1976, Medical University graduates wrote a total of 955 State Board tests, recording 950 passes. Also during this time span, graduates in the Medical Nursing specialty achieved above the state mean each of

the five years and above the national mean two of these years; Psychiatric and Obstetric Nursing, above the state and national means each of these years; Surgical Nursing, above the state mean four years and the national mean three years; and Pediatric Nursing, above the state mean five years and the national mean four years.

During an intensive self study, the faculty determined that one of the needed strengths for the graduate five years hence would be primary care skills and abilities. A curriculum expert and the faculty have addressed themselves to plans for incorporating the necessary content and skills into the curriculum.

The baccalaureate degree program has further extended its teaching efforts into other areas of the state. Five students are expected to begin freshman studies in the Fall at Francis Marion College in Florence. A group of seven students on June 6, began the Nursing Practicum, a five week clinically oriented junior level course, at the Ocean View Hospital in Myrtle Beach. Another student will begin a five week Nursing elective course in Team Health Care Delivery at the Pacolet Health Center. Planning and financial support for some of these activities have been generously given by the Area Health Education Center Program.

A grant proposal in cooperation with Winthrop College has been submitted to the Department of Health, Education, and Welfare for funding the development of a model which would enable the working registered nurse to complete baccalaureate degree requirements. The model could be used in other sites such as Florence, Beaufort or Orangeburg. Funding is anticipated for January, 1978.

With inquiries continuing to mount about graduate programs in nursing, the College will reapply for a federal grant to plan, implement and evaluate these programs. The proposed graduate programs of two years in length would emphasize four majors in Pediatric Nursing, Maternity Nursing, Community Health Nursing and Medical-Surgical Nursing. The plans call for a phasing in of all of the four programs over a three year period. Among other attainments, students would gain additional knowledge and skills in two functional areas, those of teaching and administration. A peak enrollment of eighty students is projected for 1983-84.

Interest in Nurse-Midwifery has grown remarkably. During the past year, 885 inquiries were made about the program, an increase of 42 percent over the previous year. Also, an increasing popularity of joint practice between nurse-midwives and private physicians has been noted, with inquiries from physicians in and out of state being directed to the program and to the medical advisor. The capability of the faculty to respond to all requests for service by individuals and agencies is already overtaxed, and increased funding for the expansion of the program will be necessary. The program offers full maternity services to



childbearing women throughout the tri-county area in health department and federally funded health projects. It admitted 548 women to its case load over a period of 10 months.

The Nurse-Midwifery Program continues affiliation with the Southeastern Regional Council on Development of Nurse-Midwifery in order to facilitate the placement of graduates of the program in South Carolina. There are now nurse-midwifery services in Orangeburg, Bamberg, Dillon, Simpsonville and Loris. New services are being initiated in hospitals in Richland and Lexington Counties. Additional practice sites will be identified and developed during the coming year.

The resignation of Ms. Carmela Cavero, a founder of the Nurse-Midwifery program here, was accepted with deep regret. Her successor will be Ms. Helen V. Burst, current President of the American College of Nurse-Midwives. She is the author of a textbook on the specialty.

A program entitled "Family Care in the Team Approach — An Interdisciplinary Team Approach to Family Health Care" was funded in the amount of \$40,719 through the Department of Health, Education and Welfare. During the year, Nursing, Pharmacy, Medical, Dental and Allied Health Sciences students as well as Social Work students from the University of South Carolina, were involved in the project. Students were divided into teams and assigned to families through the Department of Family Practice at the Medical University. Continued funding is expected through June 30, 1979.

During the year, the College of Allied Health Sciences moved into a new building leaving additional space for educational programs in nursing. It resulted in some relief in that additional classroom space became available and faculty offices were not as crowded. The additional space, however, cannot be modified to accommodate contemporary nursing education.

In conclusion, fiscal restraints and space limitations are adversely affecting the rate of growth and development of the College of Nursing.

## **COLLEGE OF ALLIED HEALTH SCIENCES**

A very significant event in the history of the young College of Allied Health Sciences occurred in August. The new Allied Health Building was essentially completed and occupied just prior to the beginning of the Fall quarter. Administrative units of the Dean's Office and allied health programs housed in the nursing building vacated that facility and moved to the new building. These were joined by several other programs previously not housed in terms of actual dedicated space.

The bringing together of over half of the students, faculty and staff into one location has greatly aided the College along several avenues. Core educational efforts and administrative functions are much more effective

in the new setting. Specific program efforts have also improved considerably in terms of provided space not always available in the past. Students, faculty and staff have begun to identify as a unit for the first time with a resultant developing esprit de corps previously lacking. College alumni have expressed interest in the development of the College largely through their observation of the new facility and the implied support by the University and the State.

The Practical Nurse Program was also physically relocated during the past year. Space in the Castle Pinckney Inn was renovated for both faculty-staff offices and student support activities. A trailer classroom was placed in the vicinity for their use. These renovated quarters are superior to space previously utilized in the old nursing building thus resulting in an improvement in logistical operations of this large program in nursing.

During the past year, the College of Allied Health Sciences continued its operation of 10 Upper Division and 10 Lower Division health professions options. Beginning enrollments of the various programs reached the highest levels in the history of the College with a total of 504 students as of October 1. It was unfortunate that the Master in Health Sciences Program could not be initiated because of the tight fiscal situation. Enrollment projections indicate a continued modest expansion over the next several years.

This year's graduation figure reached the highest yearly total in the College's history and included 62 graduates receiving baccalaureate degrees. It was a significant increase over the previous year and represented a continuance of the trend of the past five years.

Applications for admissions to the Upper Division programs continued to rise during the 1976-1977 period. The applicants were generally better prepared and of higher quality as evidenced by the S.A.T. and college G.P.R. scores. Academically, the College has improved its academic position yearly largely due to this better student quality. This fact is also reflected in the performance of College graduates in certification, registration and licensure examinations, with most graduates performing above the national averages.

In the area of recruitment, representatives of the College visited every college in the State, participated in the Educational Opportunities Program for high school students throughout South Carolina and supported various career days and science fairs. Within its financial resources, the College did everything possible to reach all interested citizens.

All admissions activities were systematized and placed on a computer during the year. This had resulted in a very fair and impartial handling of applicants in a smoothly working procedure. This system also allows the handling of massive numbers in multiple programs in such a way that



statistical data can be collected for most useful purposes including educational research.

Success in competing for federal grant and contract monies was evidenced by the fact that the College received the greatest number of awards at the highest figure levels in its history. This success has brought difficulties, however, in terms of continuance of projects due to the difficult State fiscal situation. Federal funds in allied health fields are primarily initiation monies and thus are for limited periods of time. Four persons were dismissed from their grant positions on June 30, due to this tight budget situation. Regardless, the College programs have greatly profited through federal grants and contracts in terms of better equipment, improved facilities and better faculty during the past year.

A continued upgrading of the College faculty was observed during the reporting period, during which time new guidelines for faculty appointments and promotions were finalized. These guidelines recognize the multiple levels of allied health professions and education while also imposing "quality" goals previously lacking. It is felt that these equitable but demanding guidelines are already aiding in the College effort to continue improving its faculty. With approximately 69 full-time paid faculty and 162 clinical, joint and adjunct members donating part-time services, the need for these guidelines was apparent.

All programs reviewed during the year were accredited. Of special interest was the Dental Hygiene Program which was visited by a committee representing the Commission on Accreditation of the American Dental Association. Full accreditation was recommended and subsequently awarded. The Dental Hygiene Program graduated its first clinical class in June with members performing quite well on National and State Boards.

The new Occupational Therapy Program matriculated its first class and preparation for accreditation has begun for a site visit expected in early 1978. This program, as a high level allied health endeavor, is already attracting quality as well as quantity in applicants. With licensure status accorded recently by the State Legislature interest in Occupational Therapy should be stimulated even further.

The addition of a new Division Chairman at Trident Technical College has been an important factor in the substantial progress being made in conjoint activities in the Lower Division Programs. As the person in the inter-institution coordinative role, this position is a key to effective everyday operation. Also it should be noted that Trident Technical College is now bearing a greater share of conjoint program costs. In another important action, health programs are being moved to the Palmer downtown campus in order to facilitate effective communication and movement.

## STUDENT LIFE ACTIVITIES

Interinstitutional cooperation involving membership of the Charleston Area Consortium was particularly noteworthy this year. In addition to the shared use of athletic facilities with The Citadel and the College of Charleston, the Medical University joined the College of Charleston in sponsoring a community concert series. This series will be expanded in the 1977-78 season and tickets will be made available to students and faculty of the Charleston Consortium Colleges as well as the sponsoring institutions. The Medical University Film group also will open its Film Series to Consortium students and faculty. It is anticipated other colleges will begin cooperative programs when and wherever possible.

The need for a Student Services Building which would include, among other items, food services, recreational and social facilities, and serve as a base for student activities, is still a top priority. The previously planned building program for this facility has been updated and support is being sought for the project. This facility is needed for the obvious tangible reasons as well as the equally intangible ones of morale and building a sense of community for students and faculty.

Recreational athletics, with an emphasis on physical fitness and lifetime sports, received increased participation during the past year. The basketball and soccer programs were continued, two student softball teams participated in the City league and a volleyball tournament for women and a variety of tennis tournaments were conducted. Among other sporting events to be organized will be a racquetball ladder tournament.

The pressure of demand for additional athletic facilities was eased as an agreement was finalized with The Citadel permitting scheduled use by Medical University students and faculty of Deas Hall, The Citadel's new physical education facility which includes a pool. The generosity of The Citadel and the College of Charleston is herein acknowledged. In the long term, however, the most feasible course for the Medical University is to acquire its own facilities.

The need for more student housing, conveniently located and at lower cost, is regularly manifested in financial aid applications, student complaints, and the heavy use of listings in the Student Life Activities Office. Doubts are being expressed as to whether this demand can be met by the private sector of the community.

It is estimated the operational level of the Financial Aid Office was around \$3,500,000, involving federal loan and scholarship funds, contractual federal, state and community scholarships, institutional employment and miscellaneous scholarships and loans. The proportion of scholarships to loans decreases yearly and more students are relying on loans to finance their education. Approximately 64 percent of the



students enrolled received some type of financial assistance through the Financial Aid Office.

Statistics gathered by this Office indicate that many medical and dental students will graduate with educational debts of approximately \$15,000 and many undergraduates will owe about \$5,000. These substantial deficits point up the continuing importance of locating new sources of funds to provide grants and scholarships to replace those programs which are expiring.

# **MEDICAL UNIVERSITY OF SOUTH CAROLINA ENROLLMENT 1976-77**

## **House Staff**

Interns — Medicine .....	44
Residents — Medicine .....	278
Residents — Dental Medicine .....	20
<b>TOTAL .....</b>	<b>342</b>

## **College of Graduate Studies**

Master of Science .....	52
Doctor of Philosophy .....	69
<b>TOTAL .....</b>	<b>121</b>

## **College of Medicine**

First Year .....	165
Second Year .....	186
Third Year .....	152
Fourth Year .....	142
<b>TOTAL .....</b>	<b>645</b>

## **College of Dental Medicine**

First Year .....	54
Second Year .....	53
Third Year .....	59
<b>TOTAL .....</b>	<b>166</b>

## **College of Pharmacy**

Third Year .....	62
Fourth Year .....	76
Fifth Year .....	50
<b>TOTAL .....</b>	<b>188</b>

## **Doctor of Pharmacy (Pharm.D)**

Fifth Year .....	8
Sixth Year .....	14
<b>TOTAL .....</b>	<b>22</b>

### College of Nursing

Baccalaureate Program	
First Year .....	79
Second Year .....	75
Third Year .....	79
Fourth Year .....	56
TOTAL .....	289
Nurse-Midwifery Program .....	20
TOTAL .....	309

### College of Allied Health Sciences

Baccalaureate Programs .....	158
Associate Degree Programs .....	186
Certificate Programs .....	166
TOTAL .....	510
TOTAL ENROLLMENT .....	2,303

## MEDICAL UNIVERSITY OF SOUTH CAROLINA DEGREES CONFERRED 1976-77

### Graduate

Master of Science .....	10
Doctor of Philosophy .....	4
TOTAL .....	14

### Professional

Doctor of Medicine .....	142
Doctor of Dental Medicine .....	51
Doctor of Pharmacy .....	6
TOTAL .....	199

### Baccalaureate

Pharmacy .....	50
Nursing .....	52
Allied Health Sciences .....	62
TOTAL .....	164

### Certificate

Allied Health Sciences .....	172
Medical and Dental Postgraduate .....	113
Nurse-Midwifery .....	13
TOTAL .....	298
TOTAL GRADUATES .....	675



## RESEARCH

There has been an exciting growth of research at the Medical University in recent years, and this growth has had a beneficial effect on the academic climate and reputation of the institution.

The current research interests of the faculty are broad. Large programs in diabetes, clinical pharmacology, vascular disease, immunology, endocrinology, pesticides, spinal cord injury, cell culture studies, aging, rape, hypertension, and connective tissue diseases are underway.

The research productivity of the faculty can best be evaluated by publications and, to an extent, by success in generating extramural support. The faculty published 272 papers in nationally recognized journals over an 11-month period this year. A total of 222 abstracts, technical notes, and letters to the editor were published in the same time period.

Of particular note has been the substantial growth in research support by the National Institutes of Health. A comparison of NIH funding since 1968 follows:

<b>Fiscal Year</b>	<b>Total \$</b>	<b>No. Inv.</b>	<b>\$/Inv.</b>
1968 .....	900,079	29	31,039
1969 .....	953,403	29	32,876
1970 .....	859,737	27	31,848
1971 .....	1,108,069	30	36,936
1972 .....	925,327	25	37,013
1973 .....	1,479,737	32	46,245
1974 .....	2,697,001	44	61,295
1975 .....	2,734,511	46	59,446
1976 .....	3,331,755	57	58,459

In 1968, there was one program funded for more than \$100,000 per year. In 1976, five programs were funded to this magnitude.

Accelerated growth in funding is anticipated in the coming year to reinforce the school's competitive standing.

There has also been a healthy rate of growth of extramural support at the Charleston Veterans Administration Hospital.

<b>Fiscal Year</b>	<b>Total \$</b>	<b>No. Inv.</b>	<b>\$/Inv.</b>
1968 .....	86,321	15	5,754
1969 .....	106,658	15	7,110
1970 .....	152,226	17	8,954
1971 .....	156,314	17	9,195
1972 .....	177,037	8	22,129
1973 .....	294,883	14	21,063
1974 .....	366,648	11	33,332

1975 .....	523,223	16	32,701
1976 .....	527,796	14	37,700
1977 .....	672,092	21	32,003
1978 .....	703,057	24	29,290

The Research Committee concerns itself primarily with the South Carolina State appropriation for Biomedical Research and the Biomedical Research Support Grant, an excellent internal peer review system being used in the awarding of the funds. Two competitions were held in 1976 for the state appropriation. The first, in June, received 82 applications and 37 were funded for a total of \$203,490. In the fall competition, 36 new and revised applications were submitted for review and 21 were funded for a total of \$93,010. Another competition was held in June, 1977, with 70 applications for support submitted. Forty-six were funded for a total of \$281,000.

A total of 36 different investigators were assisted by the Biomedical Research Support Grant. Applications were also received from department chairmen for non-recurring items. Applications were reviewed by the Committee for merit, and \$95,000 was awarded to 14 departments.

Twelve students were supported in research electives with faculty preceptors. Progress reports were required, and preceptors were carefully chosen from those who had on-going extramural research support. Another group of 18 students was approved for summer positions in funded research laboratories for the summer of 1977.

A breakdown of BRSG support for the past three years is as follows:

	No. Supported	\$
1975 .....	24	117,269
1976 .....	41	193,000
1977 .....	50	180,000

The availability of interested research-oriented faculty undoubtedly has had a great impact upon the sophistication of our patient evaluation and care. In many cases, the Medical University has become known nationally through its research-oriented faculty.

## OFFICE OF EDUCATIONAL SERVICES

A restructuring of the Office of Educational Services consisting of the Division of Instructional Development and the Division of Audiovisual Production was completed in mid-year. The report on activities which follows underscores the deepening involvement of the office in the educational process of the University.



## Division of Instructional Development

Representation of this Division on the curriculum or advisory committee of each of the six colleges and on six university committees is an expression of the value being placed on new technology in the instructional process. In the six months of its existence, the Division has already grown in scope well beyond that of its earlier counterparts. While continuing to provide established services such as the development of instructional materials, curriculum development and assistance in testing and evaluation, the Division has assumed new responsibilities. It has initiated a University-wide program of in-service education for the faculty; provided assistance in the design, administration and interpretation of data gathering instruments in four colleges; made a major commitment in time and personnel to help assess the evaluation of students and of instruction, and undertaken an evaluation of the elective system of the College of Medicine. The Division is also a major source of support for the College of Dental Medicine as it prepares for its accreditation site visit in 1978.

The Student Examination Evaluation Program (SEEP) administered by this Division scored approximately 20,000 test papers over a period of five and one half months. Just as important as its scoring capability was the information the program provided for use as the basis of test evaluation and revision, the ultimate purpose being the administration of reliable and valid measures of course achievement.

In cooperation with faculty, 36 self-instructional and review programs were developed during the year. Faculty from 17 departments in four colleges were involved. Currently, projects involving the development of media materials are in process in the Departments of Pathology, Immunology, Psychiatry, Nursing, Cardiology, Endodontics and Physical Therapy. To stimulate further interest in teaching materials, a faculty development program is planned to include formal and informal meetings on an individual or departmental basis.

In the area of in-service education, three university-wide workshops were presented by the Division as well as 14 small group seminars for specific departments. The first workshop was on test construction and analysis and in three two-hour sessions covered such topics as test purposes and uses, test and item design, test evaluation, scoring and grading, and diagnostic uses of test data. The second and third workshops were single sessions devoted to student course ratings and their role in evaluating instructional effectiveness. The workshops will be offered on a regular basis next year.

The Student Instructional Rating System (SIRS) is a comprehensive program of collecting, analyzing and reporting student reactions to classroom instruction for the purpose of providing constructive feedback

to the faculty. Offered on a limited basis since 1975, it has drawn the participation of some 60 instructors representing 35 courses.

The Division has also assisted the Department of Pharmacology in initiating a Computer Assisted Instructional Unit and has helped provide review materials accessed through the Medical College of Georgia.

### **Division of Audiovisual Production**

The Division completed more projects than in any previous year, in some instances double the units of work for 1973-74, despite extremely stringent budgetary conditions. To continue the pace, the various sections are faced with the prospect of restructuring fee schedules, seeking additional funding to replace outdated equipment and applying for more space.

The Cinematography Section, which provides a full film production service, also performs audio recording, audio duplicating and transferring and synchronization of slide tape presentations. During the year it completed 12 films, produced 11 segments for use in television and provided audio recording support for some 30 programs.

The Photography Section completed 4,602 units of work, an increase of more than 500 over the previous year. At the current rate, user demand is expected easily to double in the next three years.

The Television Section completed 75 structured programs and provided numerous technical services. In addition to the support for the development of instructional programs the section foresees a large increase in the use of non-program applications such as research documentation, patient therapy, diagnosis and security surveillance. The state of the art in video/record/edit production type hardware is rapidly changing, and calls attention to the need for equipment purchases or modifications.

The Illustration and Design Section completed over 800 projects, an increase of approximately 100 over the previous year, without any additional personnel. The purchase of a phototypesetter and camera processor is recommended in order to respond to the growing number of work requests without an appreciable increase in personnel.

The Classroom Support Section recorded its highest "use" rate ever as it provided maintenance of audiovisual equipment in all classrooms and lecture halls, placed equipment for special use in instructional areas, and lent equipment to faculty on a short-term basis.

### **MEDICAL UNIVERSITY HOSPITAL**

The start of the fiscal year was highlighted by the relocation of the Ambulatory Outpatient Clinics to the first two floors of the Clinical Science Building. The services of 27 clinics are now available to patients in this attractive new facility.



Shortly thereafter, on September 10, the new Albert Florens Storm Memorial Eye Institute was formally dedicated. Since then ramps have been built to connect the first three floors of the hospital with the Eye Institute.

Renovation and expansion of the cafeteria on the northeast corner of the hospital's first floor is in progress. It is anticipated this modernized cafeteria will be able to meet the needs of more than 400 visitors, patients and employees. The plans also include such special features as a private dining room and two separate serving lines, one for hot food and the other for cold items.

Substantial improvements are being made in the Department of Radiology on the third floor. A Computerized Axial Tomographic (CAT) whole body scanner has been acquired and space is being prepared for its housing. This highly sophisticated piece of equipment possesses several distinct advantages in regard to patient care, primarily due to its non-invasive nature of operation. Procedures can now be carried out with a degree of safety and comfort for the patient. In addition to this major equipment acquisition, the Department of Radiology has gained considerable space for expansion on the third floor, where three new radiographic rooms are under construction. A special area for chest films will be designated to increase operational efficiency. The renovation will also provide needed support space. Nuclear Medicine will eventually be relocated in this area of the Hospital, along with other functions.

A project is underway to consolidate and coordinate several outpatient and inpatient services. Hospital and Clinic Medical Records will soon be located in the same area, a move to provide such benefits as increased accessibility of patient information and cost savings accruing from greater efficiency in operations. The Blood Bank refrigerator has been moved to the west wing of the second floor to improve accessibility of the Blood Bank to inpatient and outpatient functions.

An unannounced Disaster Drill was held on November 23, 1976. A critique of performance concluded the drill was a success. The drill involved Charleston County health care organizations and area police and military agencies. The Disaster Drill was conducted to assess Charleston County's state of preparedness in a catastrophe.

Reconstruction is transforming the appearance of the Neurological and Neurosurgical Intensive Care Unit on the east wing of the seventh floor. Patients were transferred to the fourth floor intensive care unit during the Christmas holidays so that construction could begin. A government grant had been awarded to make the improvements to meet the special needs of spinal cord patients.

Other major improvements include the renovation of the autopsy area, and the extension of anesthesiology coverage to the labor and delivery areas on the eighth floor. A CRT (cathode ray tube) terminal has

been installed on the east wing of the Hospital's fourth floor to provide rapid replies of test results to physicians.

An architectural firm has been engaged to develop a system of signs, in accordance with the specifications of the Master Plan. These signs should improve the traffic flow in the corridors, as well as enhance the overall appearance of the hospital.

The hospital is conducting a major campaign to attract patients from around the state. A Patient Awareness Program was instituted to enhance the effectiveness of patient care workers. Housekeeping organizational structure and work methods have also been revised and updated with the aim of improving the hospital's appearance and public image. Under study is a system of telephone communication, MIST (Medical Information Service via Telephone), which would provide a record of physician referral activity.

From November, 1976 through January, 1977, the Medical University Hospital experienced an appreciable increase in inpatient bed occupancy over that of former years. Hospital Administration has sought to strengthen the Hospital's financial position by making every possible effort to maintain occupancy at the highest achievable level. A vital element of this campaign has been the development of an improved system of patient referrals from physicians throughout the State.

In late October, it was determined there would be a shortfall in revenue and corrective action was implemented immediately. A program was initiated to cut costs and increase revenue in order to improve the Hospital's financial position. Expenditure reductions included a 37% decrease in supply costs and a 16.5% decrease in spending for overtime during the early part of 1977. Attempts to balance the budget were successful, but this was achieved at the cost of limitations on expenditures for equipment. Consequently, the Medical University Hospital now needs to upgrade and improve equipment throughout the Hospital.

Finally, extensive recruiting efforts are being made to attract and retain the needed numbers of nursing personnel. The Hospital hopes to improve the ratio of registered nurses on patient units on every shift. The achievement of a more desirable RN-patient ratio is an important goal of the Medical University Hospital.



## STATISTICAL AND FINANCIAL SUMMARY

	1975-76	1976-77	Increase
Patient Days . . . . .	137,203	144,023	5.0%
Outpatient			
Clinic Visits . . . . .	175,407	190,072	8.4%
Operating Budget . . . .	\$34,225,951	\$39,137,280	14.0%
Revenue From			
Operations . . . . .	\$25,499,895	\$27,913,177	9.0%
		\$ 1,000,000*	
Revenue From State			
Appropriations . . . .	\$10,224,163	\$10,224,164	—

\* In order to balance the budget for 1976-77 it was necessary to transfer \$1,000,000 from Capital Funds to Operating Funds. This amount had previously been transferred from Operating Funds to Capital Funds in order to renovate the Cafeteria and the Radiology Department.

## LIBRARIES AND LEARNING RESOURCE CENTERS

The addition of the fourth floor to the Administration-Library Building was completed to house a major statewide Learning Resource Center.

The Center, which provides seating for 254 persons, contains numerous self-instructional programs for use of students for review purposes and to meet the continuing education needs of South Carolina's practicing health professionals. Audiovisual programs are available for loan to qualified persons throughout the State. Videocassettes, audiocassettes and slide-tape programs constitute the bulk of the holdings; however, specialized simulators are available for teaching purposes as are computer terminals for access to computer-assisted instructional data bases.

The 25,000 square foot addition also houses the Office of Educational Services and the office of the Coordinator of Student Activities.

State appropriations to the Medical University amounted to \$613,649 for the fiscal year, with contractual funds and gift accounts bringing total funds available to \$628,809. This level of support was not adequate to allow for appropriate growth; rather, it was necessary to delete selected journal titles and to curtail monograph acquisitions. The deletion of 246 periodical titles brought the number of current journals to 2,079. Altogether 5,813 monographs and bound journals were added to the Library collection. The collection now contains 114,938 volumes, not including 2,436 audiovisual packages.

To augment dwindling state funds, an aggressive and efficient program of participation with the Medical Library Association Exchange was initiated, and 1,753 items were received through the Exchange at negligible cost.



The Library continues to serve as a Resource Library of the Southeastern Regional Medical Library Program (SERMLP) and as a member of the Charleston Consortium. The Library received \$12,405 from SERMLP for its role in providing information to institutions and individuals in the Southeast.

The Reference staff and the Extension Office completed 4,138 manual literature searches; MEDLINE searches numbered 3,101 (up 80% over FY 1975-76); and 1,400 searches (up 75% over FY 1975-76) were run using other computerized data bases. The Interlibrary Loan and Extension Offices provided 12,559 (up 50% over FY 1975-76) monographs or photocopies of journal articles to users throughout the State and the Southeast; 1,975 items (down 25% from FY 1975-76) were borrowed for M.U.S.C. users. This decline reflects strongly upon the collection's ability to meet in-house user needs. Circulation for 1976-77 rose to 57,684 items.

A formal user education program was implemented and found to be not only welcome but successful.

Members of the Library and Learning Resource Center staffs conducted two workshops for the Southeastern Regional Medical Library Program: the first on Health Science Library Consortia Development, the second on the Management of Audiovisuals for the Small Health Sciences Library. Participants for the workshops came from hospitals in Alabama, Georgia, North Carolina, Puerto Rico, and South Carolina.

Consultant services were provided to 22 hospitals or consortia in the State.

### **Waring Historical Library**

Forty-three gifts were received during the year, the most noteworthy being a collection of urethral instruments of the early 20th century, a seven-volume set of Friedrich Hoffmann's *Opera Omnia Physico-Medica*, Geneva, 1761, a five-volume set of *An Abridgement of Baron van Swieten's Commentaries upon the Aphorisms of the Celebrated Dr. Hermann Boerhaave*, London, 1773-1775, an intern's certificate of the Pennsylvania Hospital presented to Dr. Joseph H. Dogan of Cambridge, S. C. in 1817, and an antique wooden examining table of the late 19th century. A detailed list of the library's accessions is published quarterly in the University's *Library Notes*.

Among the purchases made were a group of pharmaceutical jars, volumes 10 and 11 of the Leonardo da Vinci Codex Atlanticus reprint and several catalogues of instruments and medical equipment of the 19th century which will be of valuable assistance in implementing plans for enlarging the museum collection.

Researchers using the library this year came from as far afield as Missouri, Minnesota, California and Scotland. Most of the letters of

inquiry to the library concerned 19th century students and their inaugural dissertations. Additional use of the Waring Library for research purposes is encouraged.

Dr. Joseph I. Waring, the director, has begun the preparation of a bibliography of materials relating to the history of medicine in South Carolina. The work is proceeding with the help of the Wyman Fund and some library monies.

Approximately 125 books and journals published before 1900 were taken from the regular shelves in the main library and placed on the rare book shelves in the Waring Library. The catalog cards for these books were left in the file of the main library and stamped *Waring Library*. This is a start towards the ultimate goal of having all books in the Waring Library catalogued in the main library as well as in the Waring Library. These books along with 52 books from the library of Dr. J. E. Warnock, class of 1899, and a number of books from the library of Dr. A. C. Wildhagen, class of 1900, have kept the library staff busy in the cataloging and repairing departments.

A good start on the complete system of marking and cataloging instruments and museum items was made this year. With the assistance of student workers approximately 250 items (some individual instruments and some cases of instruments) were marked, and they are gradually being cross indexed under the separate headings of time period, medical subject, owner, donor, and miscellaneous information.

Acid free folders have been bought for the separate storage of the prints and photographs in the Waring Library collection. A complete cataloging system is being developed for them.

Historical items are exhibited at several locations on campus during the year. In addition to the three cases in the hallways of the Library-Administration Building and the College of Dental Medicine-Basic Sciences Building, two more cases on the new fourth floor addition of the main library have medical artifacts displayed in them.

The Waring Library and the Macaulay Museum of Dental History were included on the tour schedules of a number of high schools throughout the state. A set of slides with narration was prepared to explain the functions of the library, making the tours very meaningful to the students.

## STUDENT-EMPLOYEE HEALTH SERVICES

Health Services recorded 15,153 outpatient visits, an increase of 702 over the previous year, students accounting for 7,064 visits, employees, 8,064 and visitors 25. Of the total, 3,033 were made after regular working hours, on weekends or on holidays. The Hospital Medical Residents saw 183 patients.



There were 671 student outpatient admissions to the sick list, with a total of 1,734 sick days, an average of 2.6 sick days per student, the same as in the year before.

The number of lost time accidents came to 118 with a loss of 1,121 work days, a figure slightly less than last year. The total number of visits for all service-related injuries was 1,750.

The Student Mental Health Program was responsible for the treatment of approximately the same number of students as last year (89 for 528 hours of therapy). There were 21 student hospital admissions for a total of 90 hospital days compared to 39 admissions and 139 hospital days in the previous reporting period.

Health Services was responsible for providing 24-hour outpatient medical care for a student body of 2,303 (including 342 Housestaff) and occupational health care for over 4,700 employees.

One of the preventive health measures added during the period was the offering of Bivalent Influenza Vaccine, containing A/New Jersey/76 and A/Victoria/75 viruses to students and employees in the "increased risk" category. Forty-three students and 20 employees were immunized. There were no significant reactions.

Health Services also cooperated with the University Hospital Infections Committee in maintaining surveillance of Hepatitis B incidence in employees in certain areas of the Hospital by monitoring results of Australian Antigen (HB<sub>s</sub>AG) determinations on their blood samples. All new female employees of childbearing age assigned to work in Pediatrics are being tested for immunity to Rubella. Those who are not immune are being immunized.

## PASTORAL SERVICES

Human research is carried out by the Medical University only under the strictest guidelines. The Director of Pastoral Services, as an ad hoc member of the Institutional Review Board of the Human Research Committee, serves on its Advisory (Consent) Subcommittee. This responsibility involves not only attendance of committee meetings but contacts with principal investigators and their patients. Grant requests are reviewed almost daily to help achieve the proper Informed Consent Agreement and Lay Summary, and as necessary, to refer questions or decisions back to the Human Research Committee.

The Workshop in Bio-Medical Ethics, which encourages a continuing dialogue between health professionals and the clergy, was held in May. The visiting professor was Dr. Arthur L. Foster, a member of the faculty of Chicago Theological Seminary and of the Combined Theological Faculties of the University of Chicago, who spoke on "Psychosynthesis — A New Method of Education and Psychotherapy."



There has been a noticeable increase in the number of ceremonies conducted in the Chapel of St. Luke. Weddings, programs for small graduating groups from the various colleges, memorial services, fraternity ceremonies and other group meetings are being scheduled with greater frequency. Musical recitals have also been held in the Chapel.

In addition to his campus duties, the Director was invited to teach a course on "Abnormal Psychology" at Trident Technical College; "Great Living Religions of the World" in the evening program at the College of Charleston, and also courses in sociology at the Trident Technical College — Palmer College. He also lectured at The Citadel on "Medical Ethics: Definitions of Death, Abortion, and Euthanasia."

## EXTRAMURAL AFFAIRS

### Division of Continuing Education

The Division, presenting 78 programs for which Continuing Education Credits were given, recorded a marked increase in attendance by health professionals over the previous year, 9,444 against 5,900. A total of 1,088 contact hours was provided. Additionally, five guest lecture series were conducted.

#### Continuing Education Courses

Date	Name of Program	Attendance
Aug. 2-6	4th Annual Beach Workshop .....	191
Aug. 10-13	"It's Your Community Health" .....	32
Aug. 23-27	Microvascular Surgery Workshop .....	17
Aug. 25	AHEC Urine Analysis .....	23
Aug. 25-28	16th Annual Meeting — Southern Assoc. of Cytotechnologists .....	144
Sept. 11	4th Annual Ophthalmic Refresher Course .....	32
Sept. 17-19	Pediatric Patient and Anesthesia Management .....	70
Sept. 17-18	S. C. Society of Histology Technicians .....	42
Sept. 17-19	22nd Tri-State Consecutive Case Conference .....	64
Sept. 23	Urine Analysis .....	31
Sept. 26-Oct. 2	Practicing Physicians Review Course .....	31
Oct. 6	Management of the Home-Hemodialyzed Patient .....	21
Oct. 6-8	Discover and Design for Health Education .....	26
Oct. 7	Diabetes/Infectious Disease Seminar .....	45
Oct. 15	The Erythrocyte Workshop .....	15
Oct. 17-20	6th Annual Dosimetry Workshop .....	21
Oct. 18-20	F. P. Intensive Recertification Review Course .....	72
Oct. 20-23	Telecommunications and Rural Health .....	34
Oct. 21-22	Review for National and State Certifying Examinations .....	89
Oct. 27-30	2nd Annual Practice Management Seminar .....	66
Nov. 4-5	Annual Meeting, Southern Psychiatric Association .....	240
Nov. 10-13	Dr. Hans Popper's Lecture .....	27
Nov. 12	Treatment and Prevention of Tuberculosis .....	38
Nov. 12	Blood Gas/Flame Quality Control Workshop .....	17
Nov. 19	Ostomy Seminar .....	64
Dec. 3	New Concepts in Neuro Nursing for the LPN .....	46

Date	Name of Program	Attendance
Dec. 9-11	10th Annual Meeting — American Assoc. for Cancer Ed.	128
Dec. 17	Leukocyte Workshop .....	30
Dec. 17	Leukemia Workshop .....	29
Jan. 2-15	2nd Medical Refresher Cruise Seminar .....	23
Jan. 2-15	Dental Refresher Cruise Seminar .....	3
Jan. 14	Quality Control in Laboratory .....	20
Jan. 14	Gyn-Oncology Patient .....	68
Jan. 19-Mar. 15	Supervisory Management Course .....	102
Jan. 27	Glaucoma-Cataract Seminar for Optometrists .....	16
Feb. 13-19	8th Annual Family Practice Refresher Course .....	70
Feb. 18	Identification of Clinically Significant Anaerobic Bacteria .....	19
Feb. 25	Assertive Behavior in Nursing .....	91
Feb.-Mar.	Metric Systems for Hospitals .....	86
Mar. 4	S. C. Society of Histology Technicians .....	56
Mar. 11	Malignant Lymphoma .....	112
Mar. 11	Rehabilitative Nursing .....	28
Mar. 15	The Physician and The Athlete .....	75
Mar. 17-19	Southern Society of Anesthesiologists Annual Meeting .	437
Jan. 31-Mar. 18	Nursing Care in Emergency Situations .....	10
Mar. 18-19	Pediatric Urology .....	33
Mar. 22-24	21st Greenville Post-Graduate Seminar .....	250
Mar. 26	Cytology Seminar #13 .....	92
Mar. 30	Ophthalmic Nursing Seminar .....	61
Mar. 31-Apr. 2	11th Annual Ophthalmology Residents Conference ....	36
Apr. 7	Glaucoma-Cataract Seminar for Optometrists .....	13
Jan. 26-Apr. 13	Management Development Workshop .....	35
Apr. 15-16	Controversies in Urology .....	19
Apr. 20-24	Postgraduate Course in Surgery .....	133
Apr. 21	Advanced Coronary Care .....	24
Apr. 22	Myocardial Infarction .....	117
May 4-6	Problems in Epilepsy .....	113
May 12	Med/Surg Emergencies in the Rural Hospital .....	15
May 15	Maintenance and Calibration of Coulter Senior S .....	31
May 18-19	Workshop on Nutritional Assessment .....	91
May 20	Enterobacteriaceae Identification .....	7
May 26-27	Educational Design .....	6
June 7-9	Update Topics in Internal Medicine and Psychiatry ...	8
June 9	Audiovisual Workshop .....	20
June 10	Auditory Perceptual Problems .....	63
June 22-24	PACME Summer Workshop and Seminar .....	32
June 23	Fetal Well-Being .....	35
June 24	Fetal Well-Being .....	32
		4167
July 7-June 15	Diagnostic Radiology Seminars .....	3422
Sept. 1-June 30	Weekly Departmental Conference (Psychiatry) .....	237
Sept. 9-Mar. 24	Psychosomatic Case Conference .....	60
Oct. 1-29	Nuclear Medicine Weekly Seminars .....	25
Dec. 2-June 16	Neuroradiology Conference (Weekly) .....	398
Dec. 13-May 6	Pathology Roundtable Conference .....	52
Jan. 5-Mar. 18	Family Practice Teaching Conference and Grand Rounds	215
Jan. 19-Mar.30	Teaching Seminars .....	57
Jan. 25-June 21	Medicine Grand Rounds .....	780
June 17-24	Pediatric Grand Rounds .....	31
		5277
	Grand Total	9444



## FACULTY GUEST LECTURE SERIES

Sept.-Apr. — Kershaw County Medical Society  
Oct. 12 — Allendale Medical Society  
Nov.-Mar. — Beaufort Naval Hospital  
Jan. 19-Feb. 16 — Coastal Medical Society  
May 26 — Dillon Faculty Lecture Series

## CONTINUING EDUCATION PROGRAM ATTENDANCE

July 1, 1976 - June 30, 1977

Physicians .....	7,178
Physician's Assistants .....	125
R.N - L.P.N. ....	842
Technicians .....	154
Other .....	1,145
TOTAL .....	9,444

The Division's Health Communications Network this year attained the capability of originating live television programs from the Network's studio in Charleston for transmission over South Carolina Educational Television's closed circuit network. The first live program, jointly sponsored by the Area Health Education Centers program, featured a Laboratory Technologist Review. Of the approximately 1,000 registered technologists in the state, some 600 participated in this class in their respective hospitals and communities. A question and answer session followed each broadcast over the telephone talkback system. Inquiries have been received from many states asking for copies of this 18-week program which provides excellent preparation for the national exam required by the Department of Health, Education and Welfare.

The Network now has a membership of 32 hospitals and health-related institutions, and anticipates disseminating its programs to 12 more locations represented by county health departments. Forty-three programs a month are broadcast over closed circuit television, this number to be increased to 59 next year. Despite the loss of time in relocating the Network in the former Castle Pinckney Inn, the television production crew turned out a new high total of 76 programs during the year.

The Division has been an active member of the Public Service Satellite Consortium (PSSC) for the past several years. Additionally, it has participated in the Appalachian Regional Commission's ATS-6 Satellite Project and the Monsour Medical Center's ATS-6 Project. The Division is now in the final stages of negotiating approximately two weeks of satellite time with the Public Service Satellite Consortium. Utilizing a



portable earth terminal, it plans to broadcast several of its program series to the PSSC nationwide membership. Programs to be aired are "Review of Depression for Practicing Physicians," "Metrics for Hospitals," "Please Don't Eat the Flowers," and "A Time to Live."

### **The Statewide Family Practice Residency System**

At the inception of the Statewide Family Practice Computer Project, demonstration terminals were placed in Greenville and Spartanburg. In time a number of computer services and programs were incorporated to expedite patient care, improve teaching, and support research in ambulatory health care.

This record of success led other programs in the state to seek computer capability. Terminals and printers were purchased for placement in the family practice programs in Columbia and Anderson, as well as Greenville and Spartanburg.

The Computer Project has proven worthwhile and essential to the Statewide Family Practice Residency System. From automated record-keeping to drug interaction analysis to research to scheduling to billing, the computer provides the system a link to the accurate practice of futuristic medicine.

The widening distribution in Family Practice training opportunities has been one of the medical highlights of recent years. Following is a report of activities at the various sites:

Anderson: The program began in 1974 with two residents and is growing rapidly toward a complement of twenty-four residents, eight at each of three years. The full-time faculty consists of two family practitioners, an internist, a pediatrician and a behavioral scientist. Many local physicians devote considerable time and effort to the success of this program. A new Family Practice Center was constructed in 1974. Supplemental contribution to construction costs by the Anderson Memorial Hospital helped create one of the finest Family Practice Centers in the country.

Columbia: Richland Memorial Hospital has assembled a faculty consisting of four family practitioners, an internist and a behavioral scientist. Begun in 1974 with four residents and two faculty, there are presently thirteen residents-in-training. In 1974 a spacious Family Practice Center was constructed and equipped. Soon a total complement of 30 residents will be enrolled, ten at each of three years.

Florence: In August, 1976, the McLeod Regional Medical Center Administration committed itself to the establishment of a Family Practice Residency Program and proceeded to recruit and employ a program director. During fiscal year 1977-78, the Family Practice Center will be constructed and equipped, additional faculty will be recruited, the academic curriculum will be designed and program accreditation docu-

ments will be submitted. When fully operational, the program will have eighteen residents-in-training, six at each of three years.

Greenville: The program began in July, 1971, with one resident-in-training. During the past year twenty-seven residents received training in family medicine and currently twenty-nine residents are enrolled. The full-time faculty consists of three family physicians, an internist, and a behavioral scientist. Participation of clinical and full-time faculty from other in-hospital education programs helps create a unique learning experience. To date, twenty-six residents have graduated, with 61 percent remaining in South Carolina.

Greenwood: In June, 1975, the Self Memorial Hospital committed itself to the establishment of a Family Practice Residency Program. During fiscal year 1976-77, a program director was recruited and employed and the Family Practice Center was constructed and equipped. It is anticipated the program will eventually accommodate twelve residents-in-training, four at each of three years. There should be five residents-in-training in fiscal year 1978-79. Fiscal year 1977-78 will be spent in designing and preparing academic curriculum and obtaining program accreditation. Additional faculty members will be recruited during this year and commitments to part-time teaching from local private practitioners will be established.

Spartanburg: One of the first programs in the country to receive accreditation, it started in the fall of 1970 with three residents. The program has grown steadily toward its full complement of 36 residents-in-training, twelve at each of three years. Last year 27 residents received training and currently there are 32 residents enrolled. The full-time faculty consists of three family physicians, an obstetrician-gynecologist, a psychiatrist, and a behavioral scientist. Teaching is supplemented by other full-time hospital based medical education staff and local community based clinical faculty. There were nine graduates of this program in June, 1977, six of whom located their practice in South Carolina. A total of 27 have graduated since program initiation and 70 percent have established South Carolina practices.

Charleston: The Medical University of South Carolina began its program on July 1, 1970. Originally, two residents were enrolled and during the first year a third was added. In subsequent years 16, 28, 36, 41, 43 and 45 residents received training. Today there are forty-five in training. The faculty has increased from three in 1970 to 29 full-time teachers, supplemented by 24 part-time community-based practitioners/teachers. Forty-one residents have graduated to date.



## PROJECTED RESIDENTS-IN-TRAINING

	1977-78	1978-79	1979-80	1980-81	1981-82
ANDERSON .....	21	24	24	24	24
CHARLESTON .....	45	45	45	45	45
COLUMBIA .....	13	23	30	30	30
FLORENCE .....	—	—	7	13	18
GREENVILLE .....	29	36	36	36	36
GREENWOOD .....	—	—	5	9	12
SPARTANBURG ....	32	36	36	36	36
*LANCASTER- CHESTER- ROCK HILL .....	—	—	—	—	—
TOTAL .....	140	164	183	193	201

\* Proposed

### Area Health Education Centers

Programmatically and organizationally, the South Carolina Area Health Education Center (AHEC) program underwent major transition. Additional community hospital groupings taking in large rural areas were added to AHEC to assure coverage of all counties through some 53 hospitals. Three areas in particular immediately qualified for this new type of AHEC support. They were:

Catawba-Wateree: Consisting of four counties, Chester, Kershaw, Lancaster and York, and five hospitals.

Upper Savannah: Comprising six counties, Abbeville, Edgefield, Greenwood, Laurens, McCormick and Saluda, and five hospitals.

Low Country: Comprising nine counties, Allendale, Bamberg, Barnwell, Beaufort, Berkeley, Colleton, Dorchester, Hampton and Jasper, and seven hospitals.

The new statewide arrangement is one without boundaries in which there are centers of common affiliation between community hospitals and regional centers or consortium centers, along with improved secondary affiliation between each of the regional AHEC sites.

Other significant accomplishments during the year:

Development of a computerized cost control system by contract objective.

Initiation of student clinical rotations in nursing, dentistry and pharmacy.

Significant expansion of the AHEC Clinical Elective Program.

Extensive participation by all AHEC sites in outreach activities encompassing all health care disciplines.

Initiation of a joint program between the Medical University and



Winthrop College to develop a satellite RN/BSN degree program giving active RN's the opportunity to earn the BSN degree without leaving their jobs or their geographic areas.

Initiation of a grant proposal and procedural negotiations to establish an effective working relationship between the South Carolina AHEC and the National Health Service Corps, thereby enhancing physician recruitment to and retention in critical shortage areas. A joint catalog of audio-visual resources which expands the availability and exchange of these resources among all AHEC sites and the many health professionals and health facilities they serve.

Statewide expansion of minority programs and a doubling of the scope and impact of the Summer Health Careers Program.

AHEC personnel flew 281,760 miles, reaching all areas of the State, to achieve new goals of statewide involvement. The high level of program activity has earned South Carolina national attention and recognition.

Although in 1976-77 the AHEC program expanded its activities as encouraged by the Department of Health, Education and Welfare, the considerable increase in cost of these programs has been borne largely by local funds. Because federal program support has essentially not been materially increased, federal program support now is not 66⅔ percent but only approximately 25 percent. Program costs have increased from 3.8 million dollars, from all sources, to the total of 11.8 million dollars for FY 1976-77. During this expansion period, federal funding was increased by \$100,000.

## **ADMINISTRATIVE AND FISCAL AFFAIRS**

In May of 1977, the Medical University reached a long sought after goal of centralizing its administrative business activities. This was accomplished upon the completion and occupation of the University Services Building, which provides a modern and efficient setting for business functions that had previously been scattered throughout the University campus. The new five-floor facility incorporates the Controller's Office, the Business Operations Division, the Internal Auditor's Office, the Accounting Department, the Bursar's Office, the Purchasing Department, the Personnel Department, the Public Safety Department, the Parking Management Office, and the Computer Center.

The implementation of the requirements of the Stevenson Fiscal Responsibility Act was accomplished during the year, along with additional requirements imposed on all State institutions by the Legislative Audit Council. At year's end, the Controller's Office was also heavily involved with the implementation of new State legislation aimed at greater control over State institutions. This involves the State-controlled budgeting of all funds, State, Federal and other funds, and establishing tight control of all personnel positions.

Improvements were made by the Purchasing Department in the operation of General Stores and the warehouses. Outside warehouse space was expanded to 24,000 square feet, which resulted in the institution gaining better discounts from vendors on merchandise. Changes were also made which are designed to allow more accurate inventory control of General Stores.

The commodity coding system required by the Fiscal Responsibility Act was satisfactorily implemented during the year. A large number of service contracts were consolidated, and larger discounts to the departments resulted from this change.

The Internal Auditor's Office audited and verified all petty cash, change funds and check-cashing funds of the Medical University at least once each quarter and checked security and collection procedures for the Bursar's Office. Bank statements for the payroll and accounts payable accounts were reconciled to the respective bank accounts and to the summary reports each month. Audits of payroll checks were conducted each bi-weekly pay period when feasible. The General Stores and Physical Plant inventory systems were reviewed and various other funds and business operations of the University, including student accounts receivable, bookstore, vending and other operations, were also reviewed.

The Public Safety Department recovered approximately \$4,300 worth of State and personal property and made 71 arrests on campus. A total of 98% of the officers employed by Public Safety have completed the South Carolina Criminal Justice Academy in Columbia and received accreditation. Forty percent of the officers are now enrolled in or have completed college courses earning credits towards a Bachelor of Science degree in Police Administration.

The Medical University Computer Center implemented additional hardware and software in response to the many internal and external demands as well as in anticipation of increased support for academic application of computer service. Eight new 3350 disk drives with an on-line memory capacity of 2,536,000,000 bytes were acquired and the main memory was increased from 512,000 bytes to 1,024,000 bytes. New software implemented included a Virtual Machine whereby both disk operating systems and operating systems may be concurrently processed, a conversational monitor system in support of on-line teleprocessing applications, a coursewriter for computer-assisted instruction programs, and a report generator package to drastically reduce the turn-around time for one-time requests.

Several improvements in service were initiated by the Business Operations Division. In July the Medical University switched from a WATS system to the DAIN system provided by the Division of General Services. This capability has proved to be greatly superior to the overbur-



dened WATS service. The first computerized faculty and staff directory was published in March of 1977; periodic updates of the directory will be accomplished as needed. The Motor Pool continued to operate the shuttle bus service between the Hagood parking lot and the University, as well as from the Medical University campus to the College of Charleston during the academic year. In cooperation with the Greater Charleston Safety Council, the University conducted the National Defensive Driving Course for 36 drivers of Medical University vehicles. Occupancy for the Alumni Memorial House was maintained at 100% for the nine-month academic year. Sales for the Bookstore amounted to \$247,566.10 for the year.

The number of active student loan accounts increased by 365 to a total of 2,000, or 22% over the previous fiscal year. Collections also increased significantly. A total of \$98,627.56 was received against outstanding loan principal balances, which is a 67% increase over the previous year. A computerized system was implemented to streamline the processing of student loans and scholarships. During the year the Microfilm Section processed \$45,587.30 worth of material, an increase of 29% over the previous year.

Under the ongoing expansion program of the University, the Physical Plant Division administered at least nine major construction projects. Expansion of the University's high tension electric system was completed on March 9, 1977. This expansion was necessary in order to meet the electrical needs of new buildings during electrical outages. Minor alteration and repair contracts were let during the year in the amount of approximately \$500,000. Such contracts included construction or addition to eight of the University's nine main parking lots, conversion of the Castle Pinckney from a motel to an office complex, an emergency back-up water capacity for the Eye Institute and the re-roofing of four older University buildings.

The rapid growth of the Medical University over the past years is evidenced by the number of persons now employed. The total number of employees as of June 30, 1977, was 4,971. The Department of Personnel Services has continued to keep pace with the demands and responsibilities associated with the enlarged staff. One of the most important functions of this department is to ensure that the University is in compliance with Federal and State laws governing employment, with special emphasis on the Affirmative Action Program. A new Affirmative Action Plan for Classified Employees was written, subsequently reviewed and accepted by the State Human Affairs Office. The Employment Section processed more than 11,000 applications for employment during the year. Recruiting trips were made to six minority colleges and universities within the State. The Training and Employee Development Section continued to provide educational opportunities for interested



employees. Such programs included courses in basic education, supervisory development and special skills.

To ensure that employees maximize their retirement income under the South Carolina Retirement System, the Personnel Department conducted individual counseling sessions with employees who had previous employment or military service which could be credited with the Retirement System. A pre-retirement counseling session was also held for employees nearing retirement to explain items of interest such as Social Security benefits, Retirement System benefits, etc. Other activities of the Department included an on-going exit interview survey, recreational programs for employees such as bowling, basketball and softball, and a suggestion box and question-and-answer column in a campus publication for the airing of employee problems.

## COMPUTER RESOURCES

Consultants performed a study of telecommunication needs at the Medical University dealing not only with computer telecommunication but also audiovisual, security and physical plant transmission requirements. They recommended a dual system of direct coaxial cables for peripheral computer equipment and a twin-cable broad-band network for other transmission. Plans are under consideration for a phased installation of this system.

Much planning was carried out for computerization of the registration and billing functions in the Ambulatory Care Facility. Programming will be performed and peripheral hardware obtained during the next fiscal year.

Working with the main computer center, the Learning Resources Center is developing capabilities for computer-assisted instruction. This involves not only connection of terminals to the IBM 370/145 computer, but also the installation of an IBM 5100 computer in the Learning Resource Center itself. The Department of Laboratory Medicine also has made an older computer available for conversion to computer-based educational efforts.

Computer programs used by the Physician's Assistant Program staff through telecommunications with Dartmouth University were obtained at no cost and currently are being rewritten for running on the IBM 370/145 computer. The necessary "basic" software has been obtained to enable this project to move forward.

A company specializing in computer maintenance has been contacted and has indicated an interest in developing a proposal for maintaining all stand-alone computer equipment at the Medical University other than the IBM equipment. If consummated, this arrangement should provide more expedient off-site maintenance at reduced cost.

The College of Pharmacy and the Department of Family Practice have together requested the acquisition of a new twin-processor computer to serve their combined needs. This new hardware will replace the three processors currently serving these areas. Overall, this should result in improved operations at less cost.

### ALUMNI, DEVELOPMENT AND PUBLIC RELATIONS

Private giving, which continued to show increases in number of annual contributors and average size of annual gifts, was highlighted by a gift of over \$200,000 for the purchase of an historic Charleston home to serve as an Alumni-Faculty House. Conveniently located adjacent to the campus, this much needed facility will serve to strengthen fellowship and stimulate the informal exchange of ideas, lending to the intellectual vitality of the institution.

Also, an unrestricted gift of \$150,000 was made to the Health Sciences Foundation. A notable feature of both gifts was that they were from individuals with no direct ties to the University.

The Health Sciences Foundation again played an instrumental role in the acquisition of property to accommodate essential programs suffering from a lack of space. Sufficient funding was guaranteed to enable the University to purchase the Castle Pinckney Inn for occupation primarily by Continuing Education and the Area Health Education Center Program.

In the area of Public Relations a major series of health messages was initiated for statewide television and radio distribution. Additional attention was also given to the production of public service announcements.

The personalization of relations within the University family was enhanced by two programs involving Public Relations. A President's reception for new faculty was arranged in the fall and throughout the year semi-monthly get-acquainted luncheons with the President were given, involving students, faculty, staff, and wives of faculty.

The University of Vienna Postgraduate School of Medicine was the site of this year's scientific sessions for physician alumni. A total of 180 members made the overseas continuing education trip to Vienna and Salzburg.

At the Medical Alumni Association's annual meeting the Distinguished Faculty Award was presented to Dr. Fredrick W. Kinard and the Outstanding Alumnus Award to Dr. J. Arthur Siegling. Retiring this year after an association with the Medical University since 1927, Dr. Kinard served as Dean of Graduate Studies the past 12 years. Dr. Siegling, giving up his position as Chairman of the Department of Orthopaedic Surgery to devote full time to private practice, joined the faculty in 1942 and became chairman of the Department in 1953.

Organizational expansion continued with the formation of an Alumni Club in Charlotte, North Carolina.

## **MEDICAL UNIVERSITY PUBLICATIONS**

Phone Directory  
Recruitment Booklets  
Residency Handbooks  
Alumni Magazine  
Employee Magazine  
Weekly Calendar and Newsletter  
Student Workbooks  
Instructional Guides  
Area Health Education Center Bulletins  
Dental Continuing Education  
Policy Manuals  
Departmental Brochures  
Supply Catalogue  
Student Handbooks  
Commencement Program  
Fire Plan Policies and Procedures  
Physical Diagnosis Course  
Patient Referral Directory  
Lecture Outlines Manual  
Conference Programs  
Personnel Manual  
Employee Development Training  
Grant Applications  
Surgery Annual Report  
Organizational Booklets  
Student Research Competition  
Graduation Certificates  
All University News Publications  
Medical Terminology Workbooks  
Laboratory Kits  
Physician and Clinic Forms  
Budget Reports  
Reprints



